Title: Mary Wore A Red Dress Geoboard Activity

Link to Outcomes:

- **Problem Solving** Students will use problem-solving approaches to investigate and understand mathematical content.
- **Communication** Students will realize that representing, discussing, reading, writing, and listening to mathematics are a vital part of learning and using mathematics.
- **Reasoning** Students will use patterns and relationships to analyze mathematical situations.
- **Connections** Students will use mathematics in other curriculum areas.
- **Geometry And Spatial Sense** Students will investigate and predict the results of combining, subdividing, and changing shapes.

Brief Overview:

The teacher will read the story Mary Wore A Red Dress. The students will pick different types of clothing to construct similar shapes using the geoboard. When finished, the students will make an individual book of these shapes describing the characteristics of each picture.

Grade/Level:

Grade 3

Duration/Length:

Two class sessions should be allocated for this lesson.

Prerequisite Knowledge:

Students should have working knowledge of the following skills:

- Names of polygons: pentagon, hexagon, heptagon, octagon, nonagon, and decagon
- Line segment
- Vertex of an angle

Objectives:

- Students will identify polygons.
- Students will construct polygons: pentagon, hexagon, heptagon, octagon, nonagon, and decagon.
- Students will construct line segments, vertices, and angles.

Materials/Resources/Printed Materials:

- The book Mary Wore A Red Dress by Merle Peek
- Thirty geoboards and rubberbands
- Dot geoboard paper for student books (Student Resource #2)

Development/Procedures:

- Review the polygons: pentagon, hexagon, heptagon, octagon, nonagon, and decagon using the teacher made precut shapes and student pictures from "Pick a Polygon" lesson.
- Read the book Mary Wore A Red Dress to the class for enjoyment.
- Reread the text discussing the different shapes of the clothing that Mary wore.
- Ask the students to pick one piece of clothing that Mary wore and construct that shape on their geoboards.
- Ask the students to repeat this procedure several times with different types of clothing.
- Ask the students to identify the line segments, vertices, and angles of each shape.
- Ask the students to choose six different types of clothing Mary wore and draw the shapes on their dot geoboard papers.
- Remind the students to describe their shapes and include the number of line segments, vertices, and angles on the lines provided.
- Model for the students how to fold and cut their dot geoboard papers to make a book.

Evaluation:

The teacher will observe the students constructing polygons using geoboards. The teacher will assess the students' individual shape book.

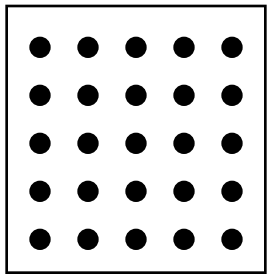
Extension/Follow Up:

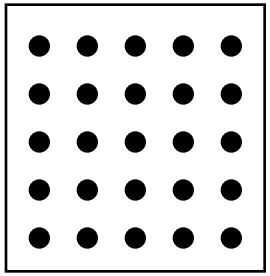
Ask the students to work in groups of four to share their shape books.
Ask the students to use the software program *MicroWorlds Project Builder* or other logo software to construct additional polygons.

Authors:

Heidi Balter
Pointers Run Elementary
Howard County

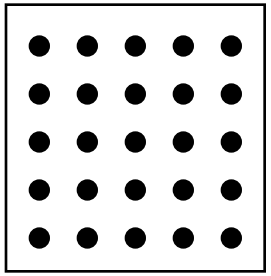
Melissa Harlow
Manor Woods Elementary
Howard County

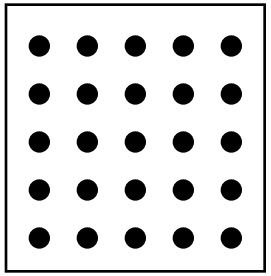


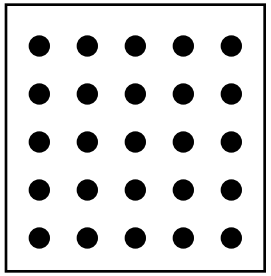


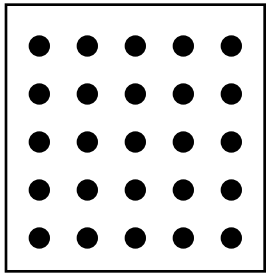
Mary Wore
A
Red Dress

Created by









Adapted from Sharon Westerlund, Howard County Public Schools